

Abstract

Disclosed herein are apparatuses and devices, and methods for using and making the same, for use in performing desired activities in an automated, microscale format. Microparticles are ushered about within a microscale apparatus, to selectively move between various stations in a selected order and manner. Some embodiments include reaction, micro-weighing, micro-analysis, reagent acquisition and deposition, and incubation stations. Microparticles can individually move, or move as trains. Samples, including particulate and solid tissue samples may be manipulated and analyzed within the device. Some embodiments may engage in micro-fabrication activities or micro-deconstruction activities. Systems for controlling such apparatuses are included as well as methods of operation.